

CLAIMS

Thus having described the invention, I claim:

1. The combination comprising:

- (A) a cartridge type container used in combination with an application gun for dispensing a volume of flowable material comprised of a hollow cylindrical tube sealed at one end by a wall end that incorporates a hollow exterior dispensing nozzle with an interior opening in its base that incorporates a peripheral interior surface area around said interior opening of said nozzle of said cartridge perpendicular to the bore of said nozzle providing means for bonding an improved frangible seal over said interior opening of said nozzle of said cartridge with an opposite end of said cartridge sealed by a sliding interior piston that pressurizes said cartridge when said piston is advanced by the plunger of said application gun.
- (B) an improved multi-layered self opening closure seal for sealing over said interior opening of said nozzle of said cartridge constructed of a first layer of unbroken frangible material that is bonded to an additional layer of material that contains at least one cut through and / or cut out void configuration that forms a breaking pattern that turns said additional layer into a break and tear template layer and that when bonded to said first frangible layer strengthens the surface area of said first frangible layer everywhere except in the area of said breaking pattern by leaving only said first frangible layer covering over said cut through and/or cut out void configuration of said breaking pattern of said additional template layer which leaves a weakness in said multi layered seal only in the area of said breaking pattern which forces said seal to break open and tear only in said weaker single frangible layered area of said breaking pattern allowing said contained flowable material to dispense out through said broken open portion of said seal and said nozzle when said seal is bonded over said interior opening of said nozzle and sufficient internal pressure is brought to bear against said seal by

advancing said sliding interior piston of said cartridge with said plunger of said application gun.

2. The seal of claim 1 wherein said seal is bonded to said peripheral interior surface area around said interior opening of said nozzle of said cartridge of claim 1 perpendicular to said bore of said nozzle sealing over said interior opening of said nozzle of said cartridge providing a self opening frangible closure seal that is only of sufficient strength to allow said seal to remain unbroken from the pressure created by the filling of said cartridge with said flowable material or its subsequent shipping and handling and said seal also being of sufficient weakness to allow said seal to break open only in the configuration of said breaking pattern and dispense said contained flowable material out through said interior opening of said nozzle of said cartridge when sufficient additional internal pressure is applied to said seal by said cartridge contents being pressurized when said sliding interior piston of said cartridge is engaged and advanced toward said nozzle wall end of said cartridge by advancing said plunger of said application gun of claim 1 after said cartridge is loaded into said application gun.
3. The breaking pattern configuration of claim 2 wherein said configuration includes at least one unbroken area that connects at least one said central portion of said seal of claim 1 that breaks open outwardly inside said nozzle from the force of said contained flowable material of said cartridge of claim 1 dispensing out of said cartridge when said seal breaks open to the annular portion of said seal remaining bonded to said peripheral interior surface area around said interior opening of said nozzle of said cartridge keeping at least one said central portion from breaking off and contaminating said contained flowable material when dispensed.
4. The breaking pattern of claim 3 wherein said breaking pattern configuration includes a varied: C shaped, H shaped, 3 or more point star shaped, X shaped, wave shaped, spiral shaped, or circular shaped configuration.
5. The seal of claim 1 wherein said template layer side of said seal is bonded to said peripheral interior surface area around said interior opening of said nozzle of said cartridge of claim 1 sealing

over said interior opening of said nozzle of said cartridge.

6. The seal of claim 1 wherein said frangible layer side of said seal is bonded to said peripheral interior surface area around said interior opening of said nozzle of said cartridge of claim 1 sealing over said interior opening of said nozzle of said cartridge.
7. The seal of claim 1 wherein said frangible layer is made up of one or more layers of the same or different materials wherein said materials include; metal foil, polymers, plastic, or paper.
8. The seal of claim 1 wherein said template layer is made up of one or more layers of the same or different materials wherein said materials include; metal foil, polymers, plastic, paper or adhesive.
9. The seal of claim 1 wherein said seal includes at least one said template layer bonded to both sides of said frangible layer.
10. The seal of claim 1 wherein said seal includes at least one said frangible layer bonded to both sides of said template layer
11. The seal of claim 1 wherein said frangible layer is bonded to said template layer by at least one layer of adhesive.
12. The adhesive layer of claim 11 wherein said adhesive layer includes an area void of said adhesive that duplicates said cut through and/or cut out void configuration of said breaking pattern of said template layer of said seal of claim 1.
13. The seal of claim 1 wherein said seal is bonded to said peripheral interior surface area around said interior opening of said nozzle of said cartridge of claim 1 sealing over said interior opening of said nozzle by at least one layer of adhesive.
14. The adhesive layer of claim 13 wherein said adhesive layer includes an area void of said adhesive that duplicates said cut through and / or cut out void configuration of said breaking pattern of said template layer of said seal of claim 1
15. The seal of claim 1 wherein said frangible layer is bonded to said template layer by non adhesive means such as cladding or fusion bonding and the like.
16. The flowable material of claim 1 wherein said flowable material includes; sealants, adhesives,

lubricants, chemicals, or foodstuffs.

17. An improved leak proof self opening frangible closure seal for sealing over the interior opening of the dispensing nozzle of pressure operated cartridge containers of the type used for storing and dispensing flowable material when used in combination with an application gun comprised of:
- (A) a first leak proof frangible layer bonded to an additional strengthening layer that contains at least one cut through and / or cut out void configuration that forms a breaking pattern that turns said strengthening layer into a break and tear template layer.
 - (B) wherein said bonding means bonding said frangible layer to said template layer includes a voided area that duplicates said cut through and / or cut out void configuration of said breaking pattern.
 - (C) wherein said cut through and / or cut out void configuration of said breaking pattern of said template layer creates a weakness in said seal only in the area of said breaking pattern by leaving only said first frangible layer covering over said cut through and / or cut out void configuration forming said breaking pattern.
 - (D) wherein said configuration of said breaking pattern forms at least one connected portion that breaks open while remaining attached to said seal portion remaining attached to the interior base of said nozzle.
 - (E) wherein said seal is bonded over said interior opening of said nozzle of said cartridge providing a leak proof self opening frangible closure seal only of sufficient strength to remain intact when subjected to the pressure created in said cartridge during the filling of said cartridge with said flowable material; and
 - (F) said seal also being of sufficient weakness to break open outwardly inside said nozzle only in the configuration of said breaking pattern thereby allowing the dispensing of said contained flowable material out through said nozzle when sufficient additional pressure is brought to bear against said seal when said cartridge is pressurized by said application gun.
 - (G) wherein said bonding means bonding said seal over said interior opening of said nozzle

includes a voided area that duplicates said cut through and / or cut out void configuration of said breaking pattern.

- (H) wherein said frangible layer side of said seal is bonded over said interior opening of said nozzle.
- (I) wherein said template layer side of said seal is bonded over said interior opening of said nozzle.
- (J) wherein said frangible layer is comprised of at least one layer of the same or different materials wherein said materials include; metal foil, plastic, polymers, or paper.
- (K) wherein said template layer is comprised of at least one layer of the same or different materials wherein said materials include; metal foil, plastic, polymers, paper, or adhesive.
- (L) wherein the bursting pressure of said seal is adjusted by varying the thickness of said frangible layer.
- (M) wherein said contained flowable material includes; sealants, adhesives, lubricants, chemicals, or foodstuffs.